

Notice of Allowability	Application No.	Applicant(s)	
	10/708,153	LIEN ET AL.	
	Examiner	Art Unit	
	ZHENG WEI	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 04/15/2010.
2. ☒ The allowed claim(s) is/are 1, 3, 4, 6-8, 17-19 and 21-24 (re-numbered as 1-13).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <p>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____</p> <p>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</p> | <p>5. <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>20100825</u>.</p> <p>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</p> <p>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</p> <p>9. <input type="checkbox"/> Other _____.</p> |
|--|---|

/Tuan Q. Dam/
Supervisory Patent Examiner, Art Unit 2192

DETAILED ACTION

Remarks

1. This office action is in response to the amendment filed on 9/29/2009.
2. Claims 1, 18 and 22 are amended by Examiner.
3. Claims 3 and 4 are cancelled by Examiner.
4. Claims 23 and 24 are reinstated and added back from the Applicants' response filed on 10/29/2009 per Applicants' request.
5. Claims 1, 3, 4, 6-8, 17-19 and 21-24 remain pending and are now being allowed (re-numbered as claims 1-13).

EXAMINER'S AMENDMENT

6. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
7. Authorization for this examiner's amendment was given in a telephone interview with Scott Margo (Reg# 56,277) on 08/26/2010 to obviate any potential 35 U.S.C. § 112 issues, and to put the claims in condition for allowance.
8. As Applicants indicated in the interview, Claims 23 and 24 were unintentionally deleted by Applicants when filing after final response on 04/15/2010. Therefore, claims 23 and 24 as shown in response filed on 10/29/2009 are reinstated by Examiner by entering in Examiner's Amendment.

Art Unit: 2192

9. The application has been amended as follows:

IN THE CLAIM

Please make following changes:

amend claims 1, 18 and 22,

cancel claims 3-4, and

reinstate claims 23-24 as filed on 10/29/2009.

Claim 1 (Currently amended): A method for program debugging, the method comprising:

setting a plurality of breakpoints corresponding to a plurality of events in a Basic

Input/Output System (BIOS) program code, each event being a test

executed by the BIOS program code to a peripheral device and taking a

general processing path when the peripheral device is working well or an

error processing path when the peripheral device is in an error state;

executing the BIOS program code for outputting a diagnosis code of [a] one of

the a plurality of breakpoints;

setting a parameter to simulate the peripheral device is working well throughout

execution of the event corresponding to the diagnosis code by a branch

command of a script file via an emulator;

executing the event corresponding to the diagnosis code according to the

parameter for making the event undergo the general processing path;

resetting the parameter to simulate the peripheral device being in the error state throughout execution of the event corresponding to the diagnosis code by the branch command of the script file via the emulator; and executing the event corresponding to the diagnosis code according to the reset parameter for making the event undergo the error processing path[.][[.]] wherein the breakpoints are software interrupt, using a trap to stop the execution of the emulator;

wherein the breakpoint can be set ahead or after of program codes of the corresponding event;

If the breakpoints are set a head of the corresponding events, the parameters are reset after the breakpoints;

If the breakpoints are set after the corresponding events, the script should spontaneously jump ahead of the branch command of the event and reset the parameter of the event.

Claim 18 (Currently amended): A method for program debugging, the method comprising:

setting a plurality of breakpoints corresponding to a plurality of events in a driver program code, each event being a test executed by the driver program code to a peripheral device and taking a general processing path when the peripheral device is working well or an error processing path when the peripheral device is in an error state;

setting a parameter to simulate that the peripheral device is working well
throughout execution of the driver program code by a branch command of
a script file via an emulator;
executing the driver program code according to the parameter for outputting a
diagnosis code corresponding to each breakpoint;
for each breakpoint, determining whether the diagnosis code matches a user
defined diagnosis code; and
resetting the parameter to simulate that the peripheral device is in the error state
and executing the event corresponding to the diagnosis code according to
the reset parameter for making the event undergo the error processing
path when it is determined that the diagnosis code matches the user
defined diagnosis code by the branch command of the script file via the
emulator [.] [[,]]
wherein the breakpoints are software interrupt, using a trap to stop the execution
of the emulator;
wherein the breakpoint can be set ahead or after of program codes of the
corresponding event;
If the breakpoints are set a head of the corresponding events, the parameters are
reset after the breakpoints;
If the breakpoints are set after the corresponding events, the script should
spontaneously jump ahead of the branch command of the event and reset
the parameter of the event.

Claim 22 (Currently amended): A method for program debugging, the method comprising:

setting a plurality of breakpoints corresponding to a plurality of events in a Basic Input/Output System (BIOS) program code, each event being a test executed by

the BIOS program code to a peripheral device and taking a general processing path when the peripheral device is working well and taking a generic event error handling path or a critical error path when the peripheral device is in an error state according to the error state, the path taken determined by a parameter;

setting the parameter to determine the general processing path by the branch command of the script file via the emulator;

executing the BIOS program code according to the parameter for outputting a diagnosis code at each of the breakpoints, each diagnosis code uniquely indicating the event corresponding to the breakpoint;

when the outputted diagnostic code matches a predetermined diagnostic code, resetting the parameter to determine which of the generic event error handling path or the critical error path is to be taken by the branch command of the script file via the emulator;

when the reset parameter determines the generic event error handling path is to be taken, executing the BIOS program code according to the reset parameter; and

when the reset parameter determines the critical event error handling path is to be taken, executing the BIOS program code according to the reset parameter [.] [[,]]

wherein the breakpoints are software interrupt, using a trap to stop the execution of the emulator;

wherein the breakpoint can be set ahead or after of program codes of the corresponding event;

If the breakpoints are set a head of the corresponding events, the parameters are reset after the breakpoints;

If the breakpoints are set after the corresponding events, the script should spontaneously jump ahead of the branch command of the event and reset the parameter of the event.

Claims 3 and 4 (Cancelled)

Claim 23 (previously presented): The method of claim 22 further comprising when executing the BIOS program code according to the reset parameter and the reset parameter determines the generic event error handling path is to be taken, writing error messages to a file.

Claim 24 (previously presented): The method of claim 22 further comprising when executing the BIOS program code according to the reset parameter and the reset parameter determines the critical event error handling path is to be taken, the critical error handling path generates an audible tone, a system reset, or a stop execution command.

--END OF AMENDMENT--

Allowable Subject Matter

10. Claims 1, 3, 4, 6-8, 17-19, and 21-24 are allowed. As the Applicants pointed out under REMAKRS section, page number 6-9, the cited prior arts (Crump, Sanchez and Hundt) do not disclose and/or fairly suggest at least recited feature and/or limitation of a method for program debugging, wherein the method comprising: setting a plurality of breakpoints corresponding to a plurality of events in a Basic Input/Output System (BIOS) or driver program code, each event being a test executed by the BIOS/driver program code to a peripheral device and taking a general processing path when the peripheral device is working well or an error processing path when the peripheral device is in an error state; setting/resetting a parameter to simulate the peripheral device is working well or error state throughout execution of the event corresponding to the diagnosis code by a branch command of a script file via an emulator; wherein the breakpoints are software interrupt, using a trap to stop the execution of the emulator;

Art Unit: 2192

wherein the breakpoint can be set ahead or after of program codes of the corresponding event; If the breakpoints are set a head of the corresponding events, the parameters are reset after the breakpoints; If the breakpoints are set after the corresponding events, the script should spontaneously jump ahead of the branch command of the event and reset the parameter of the event”, and in as such manners as similarly recited in the independent claims 1, 18 and 22, thus each of the dependent claims are allowable for at least the same reasons.

11. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zheng Wei whose telephone number is (571) 270-1059 and Fax number is (571) 270-02059. The examiner can normally be reached on Monday-Thursday 8:00-15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2192

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571- 272-1000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Z. W./
Examiner, Art Unit 2192

/Tuan Q. Dam/
Supervisory Patent Examiner, Art Unit 2192